UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,253	04/05/2000	Gopal Parupudi	MSI-505US	7033

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EXAMINER
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ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/544,253	PARUPUDI ET AL.
	Examiner	Art Unit
	Anh Ly	2172

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 July 2004</u>.
2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-64</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-64</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>04/08/24</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>5/11/04 & 7/01/04</u>.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____ .

DETAILED ACTION

Request Continued Examination

1.   The request filed on 07/01/2004 for a Request for Continued Examination (RCE)

under 37 CFR 1.114 based on parent Application No. 09/612,766 is acceptable and a

RCE has been established. An action on the RCE follows.

2.   Claim 9 has been cancelled (Page #6 dated 10/16/2002).

3.   Claims 61-64 are added (Page #9 dated 03/11/2003).

4.   Claims 1-8 and 10-64 are pending in this application.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

7.   Claims 1, 24-26, 37-29, 48, 54-56, 57, 58-59, 60-61 and 62-64 are rejected under

35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,581,062 issued to Draper

et al. (hereinafter Draper) in view of US Patent No. 6,513,059 issued to Gupta et al.

(hereinafter Gupta).

With respect to claim 1, Draper teaches one or more computer-readable media

(mass storage devices: col. 7, lines 60-63 and see fig. 13); and

a hierarchical tree structure resident on the media and comprising multiple nodes

each of which represent geographical divisions of the Earth (locations such as name,

home, address, state, zip city: col. 5, lines 38-55 and see fig. 6a and fig. 6b), individual

nodes comprising an entity identification (EID), that is unique to the node (each node

has its own entity such as the node name, its entity is NAME: col. 5, lines 38-55 and col.

6, lines 40-56), said multiple nodes comprising parent and children nodes, at least some

of the parent nodes and their associated children nodes having EIDs that are unique for

the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67).

Draper teaches the entities/instantiations have an hierarchical relationship to each other and may be logically represented by tree structure having corresponding number of nodes, one for each entity/instantiation and the edges interconnecting the nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs. 6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information of each entity is stored in node under structured organization and each entity has its own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data information associated with the entity and its attributes (col. 5, lines 12-36), such as services, goods, or locations (geographical locations): name, home, address, state, zip city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity identification (EID), that is unique to the node, each node has its own entity such as the node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent nodes and child nodes and their associated children nodes having EIDs that are unique for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claim 24, Draper teaches one or more computer-readable media (mass storage devices: col. 7, lines 60-63 and see fig. 13);

a first hierarchical tree structure having multiple nodes associated with a is first context (see fig. 6b, the first hierarchical tree structure including nodes: directory and Person);

at least one-second hierarchical tree structure having multiple nodes associated with a second context (see fig. 6B, the second hierarchical tree structure including nodes: Person and its children nodes such as Name Home and Work: see fig. 6b) and at least one node from the at least one second hierarchical tree structure being linked with one node on the: first hierarchical tree structure by a link that is configured to enable a complete context to be derived from the first and second contexts (col. 5, lines 38-55 and col. 6, lines 40-56; the linking between two hierarchical tree structures is the link or edge between Directory and Person, see fig. 6b).

Draper teaches the entities/instantiations have an hierarchical relationship to each other and may be logically represented by tree structure having corresponding number of nodes, one for each entity/instantiation and the edges interconnecting the nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs. 6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information of each entity is stored in node under structured organization and each entity has its own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data information associated with the entity and its attributes (col. 5, lines 12-36), such as services, goods, or locations (geographical locations): name, home, address, state, zip city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity identification (EID), that is unique to the node, each node has its own entity such as the node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent nodes and child nodes and their associated children nodes having EIDs that are unique for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach IDs that can be serve as a basis by which attributes can be assigned to goods or services associated with an individual node.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings

of Gupta by incorporating the use of goods and services attributes assigned to each

node in the node tree or context tree. The motivation being to improve the searching

and retrieving a tree structure and optimization for search on a plurality of search values

without the need to generate and store search table for each search value values and

reduce the amount of required storage area in the searching in the hierarchical tree

structures environment.

With respect to claims 25-26, Draper teaches a location context and

geographical divisions of Earth (see fig. 6B: address, city state).

With respect to claim 37, Draper teaches accessing first and one or more second

hierarchical tree structures that are resident on one or more computer-readable media,

each tree structure having multiple nodes, the nodes of the first hierarchical tree

structure being associated with a first context, the nodes of the one or more second

hierarchical tree structures being associated with a second context; and traversing

multiple nodes of at least one of the tree structures to derive a context, said multiple

nodes comprising parent and children nodes at least some of the parent nodes and their

associated children nodes having Ids that are unique for the associated node (mass

storage devices: col. 7, lines 60-63 and see fig. 13; see fig. 6B, see fig. 6b, the first

hierarchical tree structure including nodes: directory and Person and the second

hierarchical tree structure including nodes: Person and its children nodes such as Name

Home and Work; col. 5, lines 38-55 and col. 6, lines 40-56; the linking between two

hierarchical tree structures is the link or edge between Directory and Person, see fig.

6b; and traversing the multiple nodes: see fig. 5, col. col. 5, lines 1-12).

Draper teaches the entities/instantiations have an hierarchical relationship to each other and may be logically represented by tree structure having corresponding number of nodes, one for each entity/instantiation and the edges interconnecting the nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs. 6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information of each entity is stored in node under structured organization and each entity has its own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data information associated with the entity and its attributes (col. 5, lines 12-36), such as services, goods, or locations (geographical locations): name, home, address, state, zip city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity identification (EID), that is unique to the node, each node has its own entity such as the node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent nodes and child nodes and their associated children nodes having EIDs that are unique for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach individual nodes having unique IDs that can be serve as a basis by which attributes can be assigned to goods or services associated with an individual node.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings

of Gupta by incorporating the use of goods and services attributes assigned to each

node in the node tree or context tree. The motivation being to improve the searching

and retrieving a tree structure and optimization for search on a plurality of search values

without the need to generate and store search table for each search value values and

reduce the amount of required storage area in the searching in the hierarchical tree

structures environment.

With respect to claims 38-39, Draper teaches a location context and

geographical divisions of Earth (see fig. 6B: address, city state).

With respect to claim 48, Draper teaches access first and second hierarchical

tree structures, each tree structure having multiple nodes, the nodes of the first

hierarchical tree structure being associated with a first location context, the nodes of the

second hierarchical tree structure being associated with a second location context, at

least one node of the second hierarchical tree structure being linked with a node of the

first hierarchical tree structure; and traverse at least one node of each tree structure to

derive a location context, at least one node in a traversal path that leads to a root node

of the second hierarchical tree structure being 'linked with a node of the first hierarchical

tree structure, said multiple nodes comprising parent and children nodes at least some

of the parent nodes and their associated children nodes having Ids that are unique for

the associated node (mass storage devices: col. 7, lines 60-63 and see fig. 13; see fig.

6B, see fig. 6b, the first hierarchical tree structure including nodes: directory and Person

and the second hierarchical tree structure including nodes: Person and its children

nodes such as Name Home and Work; col. 5, lines 38-55 and col. 6, lines 40-56; the

linking between two hierarchical tree structures is the link or edge between Directory

and Person, see fig. 6b; and traversing the multiple nodes: see fig. 5, col. col. 5, lines 1-

12).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H,

and each node has its own entity identification: col. 4, lines 10-67). Draper does not

clearly teach individual nodes having unique IDs that can be serve as a basis by which

attributes can be assigned to goods or services associated with an individual node.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claim 49, Draper teaches the computing device automatically determines its location context (see fig. 6b, col. 5, lines 38-55).

With respect to claim 54, Draper teaches defining a hierarchical tree structure comprising multiple nodes that each can define a physical or logical entity; said multiple nodes comprising parent and children nodes, at least some of the parent nodes and their associated children nodes (see fig. 2B or 6b, each hierarchical tree structure has more than one nodes and the node such as phone, address or work are represented as services node; and traversing the multiple nodes: see fig. 5, col. col. 5, lines 1-12).

Draper teaches the entities/instantiations have an hierarchical relationship to each other and may be logically represented by tree structure having corresponding number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H,

and each node has its own entity identification: col. 4, lines 10-67). Draper does not

clearly teach having Ids that are unique for the associated node; associating one or

more goods or services with one or more of the nodes; and traversing one or more of

the multiple nodes to discover a good or service.

However, Gupta teaches context trees with each tree including one or more node

objects and each node object can be assigned to goods or services node as context

node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teachings of Draper with the teachings

of Gupta by incorporating the use of goods and services attributes assigned to each

node in the node tree or context tree. The motivation being to improve the searching

and retrieving a tree structure and optimization for search on a plurality of search values

without the need to generate and store search table for each search value values and

reduce the amount of required storage area in the searching in the hierarchical tree

structures environment.

With respect to claim 55-56, Draper teaches location, geographical division of the

Earth and traversing enables a current location to be determined (col. 5, lines 38-55 and

col. 5, lines 1-14).

With respect to claim 57, Draper teaches define a hierarchical tree structure

comprising multiple nodes that each can define a physical or logical entity; said multiple

nodes comprising parent and children nodes, at least some of the parent nodes and

their associated children nodes (see fig. 2B or 6b, each hierarchical tree structure has

more than one nodes and the node such as phone, address or work are represented as

services node; and traversing the multiple nodes: see fig. 5, col. col. 5, lines 1-12).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H,

and each node has its own entity identification: col. 4, lines 10-67). Draper does not

clearly teach having Ids that are unique for the associated node; associating one or

more goods or services with one or more of the nodes; and traversing one or more of

the multiple nodes to discover a good or service.

However, Gupta teaches context trees with each tree including one or more node

objects and each node object can be assigned to goods or services node as context

node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teachings of Draper with the teachings

of Gupta by incorporating the use of goods and services attributes assigned to each

node in the node tree or context tree. The motivation being to improve the searching

and retrieving a tree structure and optimization for search on a plurality of search values

without the need to generate and store search table for each search value values and

reduce the amount of required storage area in the searching in the hierarchical tree

structures environment.

With respect to claim 58, Draper teaches receiving input from a source that

specifies information pertaining to physical and/or logical entities; processing the

information to define a hierarchical tree structure having a context, the tree structure

comprising multiple nodes each of which represent a separate physical or logical entity;

linking at least one of the multiple nodes to a node of another tree structure having a

context and multiple nodes that represent physical and/or logical entities, the tree

structures being configured for traversal in a manner that enables context to be derived

from one or more of the nodes (see fig. 2B or 6b, each hierarchical tree structure has

more than one nodes and the node such as phone, address or work are represented as

services node; and traversing the multiple nodes: see fig. 5, col. col. 5, lines 1-12;

parent and children: col. 4, lines 10-28 and lines 42-67).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach individual nodes having unique IDs that can serve as a basis by which attributes can be assigned to goods or services.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claim 59, Draper teaches location context (see fig. 6b, state, city, address, col. 5, lines 38-55).

Claim 60 is essentially the same as claim 58 except that it is directed to a computer-readable media rather than a method, and is rejected for the same reason as applied to the claim 58 hereinabove.

With respect to claim 61, Draper teaches one or more computer-readable media; and a hierarchical tree structure resident on the media and comprising multiple nodes

each of which represent geographical divisions of the Earth, individual nodes

comprising an entity identification (EID) that is unique to the node, said multiple nodes

comprising parent and children nodes, at least some of the parent nodes and their

associated children nodes having EIDs that are unique for the associated node (mass

storage devices: col. 7, lines 60-63 and see fig. 13); locations such as name, home,

address, state, zip city: col. 5, lines 38-55 and see fig. 6a and fig. 6b; each node has its

own entity such as the node name, its entity is NAME: col. 5, lines 38-55 and col. 6,

lines 40-56; and see fig. 2b, entity A has more than one nodes, B, E, G and H, and each

node has its own entity identification: col. 4, lines 10-67).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach IDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claim 62, Draper teaches one or more computer-readable media; a first hierarchical tree structure having multiple nodes associated with a first context; at least one second hierarchical tree structure having multiple nodes associated with a second context; and at least one node from the at least one second hierarchical tree structure being linked with one node on the first hierarchical tree structure by a link that is configured to enable a complete context to be derived from the first and second contexts, individual nodes having unique IDs that can serve as a basis by which

attributes can be assigned to goods or services; and wherein the nodes of the first

hierarchical tree structure comprise geographical divisions of the Earth , wherein the

first and the at least one second hierarchical tree structures comprises a plurality of

attributes, one of which comprising information that pertains to the tree with which the

node is associated (see fig. 2B or 6b, each hierarchical tree structure has more than

one nodes and the node such as phone, address or work are represented as services

node; and traversing the multiple nodes: see fig. 5, col. col. 5, lines 1-12; parent and

children: col. 4, lines 10-28 and lines 42-67; city state are geographical divisions: see

fig. 6b).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach IDs individual nodes having unique IDs that can serve as a basis by which attributes can be assigned to goods or services.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claim 63, Draper teaches accessing first and one or more second hierarchical tree structures that are a resident on one or more computer-readable media, each tree structure having multiple nodes, the nodes of the first hierarchical tree structure being associated with a first context, the nodes of the one or more second hierarchical tree structures being associated with a second context; and traversing multiple nodes of at least one of the tree structures to derive a context, individual nodes having unique IDs that can serve as a basis by which attributes can be assigned to

goods or services; wherein the nodes of the first hierarchical tree comprise geographical

divisions of the Earth; and wherein the traversing comprises traversing at least one

node on each tree to derive the context; wherein the first and the at least one second

hierarchical tree structures comprises a plurality of attributes, one of which comprising

information that pertains to the tree with which the node is associated (see fig. 2B or 6b,

each hierarchical tree structure has more than one nodes and the node such as phone,

address or work are represented as services node; and traversing the multiple nodes:

see fig. 5, col. col. 5, lines 1-12; parent and children: col. 4, lines 10-28 and lines 42-67;

city state are geographical divisions: see fig. 6b).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach individual nodes having unique IDs that can serve as a basis by which attributes can be assigned to goods or services.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claim 64, Draper teaches access first and second hierarchical tree structures, each tree structure having multiple nodes, the nodes of the first hierarchical tree structure being associated with a first location context, the nodes of the second hierarchical tree structure being associated with a second location context, at least one node of the a second hierarchical tree structure being linked with a node of the first hierarchical tree structure: and traverse at least one node of each tree structure to derive a location context, at least one node in a traversal path that leads to a root

node of the second hierarchical tree structure being linked with a node of the first

hierarchical tree structure, wherein the first and the at least one second hierarchical tree

structures comprises a plurality of attributes, one of which comprising information that

pertains to the tree with which the node is associated; and wherein the traversing

comprises traversing at least one node on each tree to derive the context (see fig. 2B or

6b, each hierarchical tree structure has more than one nodes and the node such as

phone, address or work are represented as services node; and traversing the multiple

nodes: see fig. 5, col. col. 5, lines 1-12; parent and children: col. 4, lines 10-28 and lines

42-67; city state are geographical divisions: see fig. 6b).

Draper teaches the entities/instantiations have an hierarchical relationship to

each other and may be logically represented by tree structure having corresponding

number of nodes, one for each entity/instantiation and the edges interconnecting the

nodes whose represented entities/instantiations are links (see figs. 2a-2b and also figs.

6a -6b; 3, lines 62-67 and col. 6, lines 1-28; and col. 5, lines 38-55). Data or information

of each entity is stored in node under structured organization and each entity has its

own EID identifiers (see fig. 3 col. 4, lines 28-42), and nodes may be stored data

information associated with the entity and its attributes (col. 5, lines 12-36), such as

services, goods, or locations (geographical locations): name, home, address, state, zip

city (col. 5, lines 38-55 and see fig. 6a and fig. 6b); individual nodes comprising an entity

identification (EID), that is unique to the node, each node has its own entity such as the

node name, its entity is NAME (col. 5, lines 38-55 and col. 6, lines 40-56) and parent

nodes and child nodes and their associated children nodes having EIDs that are unique

for the associated node (see fig. 2b, entity A has more than one nodes, B, E, G and H, and each node has its own entity identification: col. 4, lines 10-67). Draper does not clearly teach individual nodes having unique IDs that can serve as a basis by which attributes can be assigned to goods or services.

However, Gupta teaches context trees with each tree including one or more node objects and each node object can be assigned to goods or services node as context node with attribute of goods or services (see fig. 1 and col. 9, lines 35-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper with the teachings of Gupta by incorporating the use of goods and services attributes assigned to each node in the node tree or context tree. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

8.   Claims 2-19, 27-28, 30-31 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,581,062 issued to Draper et al. (hereinafter Draper) in view of US Patent No. 6,513,059 issued to Gupta et al. (hereinafter Gupta) and further in view of US Patent No. 5,295,261 issued to Simonetti.

With respect to claims 2-19, Draper in view of Gupta teaches a system as discussed in claim 1.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach one or more network, political or nature entities, ocean, infrastructure entities, time zones, public places, non-physical entities.

However, Simonetti teaches one or more networks; wherein the nodes comprise political or natural entities, wherein the political or natural entities comprises one or more of the following: continents, countries, oceans, states, counties and cities; wherein the nodes comprise infrastructure entities; one or more of the following: postal codes, area codes and time zones; public places and non-physical entities (storing geographical information database: col. 4, lines 6-14; see abstract, col. 1, lines 60-68; col. 4, lines 6-14 and col. 8, lines 12-26; also see col. 13, lines 27-44; col. 8, lines 12-26; and abstract, figs, 3(A), 3(B) and 3(C), col. 8, lines 12-35 and col. 9, lines 1-28); wherein one of the attributes comprises a name attribute; a neutral ground truth name attribute; wherein one of the attributes comprises a geographic attribute; a latitude/longitude attribute; a relative importance index; a contextual parent attribute; a source attribute; a start/end dates attribute; a modification date attribute and a status attribute (col. 1, lines 60-68; col. 4, lines 6-14 and col. 8, lines 12-26; also see col. 13, lines 27-44; col. 8, lines 12-26; and abstract, figs, 3(A), 3(B) and 3(C), col. 8, lines 12-35 and col. 9, lines 1-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper in view of Gupta with the teachings of Simonetti by incorporating the use of networks and nodes with

infrastructure entities and geographical information database. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claims 28-28 and 30-31, Draper in view of Gupta teaches a system as discussed in claim 24.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach physical and/or logical entities, attributes.

However, Simonetti teaches wherein the first and second contexts comprise a location context wherein the nodes of the first hierarchical tree structure comprise geographical divisions of the Earth; wherein the nodes of the at least one second hierarchical tree structure comprise physical and/or logical entities; wherein the first and the at least one second hierarchical tree structures comprise a plurality of attributes, two of which comprising: an identification that is unique to a node; and information that pertains to the tree with which the node is associated ; one or more goods or services associated with one or more of the nodes of the at least one second hierarchical tree structure and wherein the first hierarchical tree structure to comprises a standardized view of the Earth, and the at least one second hierarchical tree structure comprises an organization-specific view of at least a portion of the Earth, the organization-specific view comprising a physical/logical entity that links into specific portions of the Earth (col. 1, lines 60-68; col. 4, lines 6-14 and col. 8, lines 12-26; also see col. 13, lines 27-44; col.

8, lines 12-26; and abstract, figs, 3(A), 3(B) and 3(C), col. 8, lines 12-35 and col. 9, lines 1-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper in view of Gupta with the teachings of Simonetti by incorporating the use of the geographical information system such as state, city , country (col. 4, lines 10-14). The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

With respect to claims 40-43, Draper in view of Gupta teaches a system as discussed in claim 37.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach physical and/or logical entities, attributes.

However, Simonetti wherein the traversing derives a location context; wherein the nodes of the first hierarchical tree comprise geographical divisions of the Earth; wherein the nodes of the one or more second hierarchical tree comprise physical and/or logical entities; wherein the traversing comprises traversing at least one node on each tree to derive the context; wherein the context comprises a location and wherein the first and one or more second hierarchical tree structures comprise at least one node pair 14 that is linked (col. 1, lines 60-68; col. 4, lines 6-14 and col. 8, lines 12-26; also see col.

13, lines 27-44; col. 8, lines 12-26; and abstract, figs, 3(A), 3(B) and 3(C), col. 8, lines

12-35 and col. 9, lines 1-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teachings of Draper in view of Gupta

with the teachings of Simonetti by incorporating the use of the geographical information

system such as state, city , country (col. 4, lines 10-14). The motivation being to

improve the searching and retrieving a tree structure and optimization for search on a

plurality of search values without the need to generate and store search table for each

search value values and reduce the amount of required storage area in the searching in

the hierarchical tree structures environment.

9.   Claims 20-23, 29, 32-36, 44-47 and 50-53 are rejected under 35 U.S.C. 103(a)

as being unpatentable over 6,581,062 issued to Draper et al. (hereinafter Draper) in

view of US Patent No. 6,513,059 issued to Gupta et al. (hereinafter Gupta) and further

in view of US Patent No. 6,151,601 issued to Papierniak et al. (hereinafter Papierniak).

With respect to claims 20-23, Draper in view of Gupta teaches a system as

discussed in claim 1.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach wherein the tree structure does not include any

nodal associations with businesses or services; wherein the computer-readable media

is embodied on a mobile computing device; wherein the computer-readable media is

embodied on a handheld mobile computing device and wherein the computer-readable

media is accessible to a mobile computing device via the Internet.

However, Papierniak teaches business context, wireless/mobile and Internet

(abstract, col. 1, lines 10-40, col. 3, lines 56-67, col. 4, lines 1-67, col. 10, lines 8-67 and

col. 11, lines 32-61).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teachings of Draper in view of Gupta

with the teachings of Papierniak by incorporating the use of a system having multiple

hierarchical tree structures for storing data. The motivation being to improve the

searching and retrieving a tree structure and optimization for search on a plurality of

search values without the need to generate and store search table for each search

value values and reduce the amount of required storage area in the searching in the

hierarchical tree structures environment.

With respect to claims 29, and 32-36, Draper in view of Gupta teaches a system

as discussed in claim 24.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach wherein the information comprises a universal

resource locator (URL); wherein the organization-specific view has no context outside of

the organization; wherein the computer-readable media is embodied on a mobile

computing device; wherein the computer-readable media is embodied on a desktop

device; wherein the computer-readable media is embodied a handheld mobile

computing device; wherein the computer-readable media is accessible to a computing

device via the Internet.

However, Papierniak teaches URL, wireless/mobile and Internet (col. 12, lines

61-67 and col. 13, lines 1-8; abstract, col. 1, lines 10-40, col. 3, lines 56-67, col. 4, lines

1-67, col. 10, lines 8-67 and col. 11, lines 32-61; col. 7, lines 55-67 and col. 8, lines 1-

31).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teachings of Draper in view of Gupta

with the teachings of Papierniak by incorporating the use of a system having multiple

hierarchical tree structures for storing data. The motivation being to improve the

searching and retrieving a tree structure and optimization for search on a plurality of

search values without the need to generate and store search table for each search

value values and reduce the amount of required storage area in the searching in the

hierarchical tree structures environment.

With respect to claims 44-47, Draper in view of Gupta teaches a system as

discussed in claim 37.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach wherein at least one of the nodes of the one or

more second hierarchical tree structures has a good or a service associated with it, and

wherein the traversing comprises locating a good or a service associated with a node

and consuming the good or service; wherein the accessing of the first and the one or

more second hierarchical tree structures comprises accessing tree structures that are

locally available on a mobile computing device; wherein the accessing of the first and

the one or more second hierarchical tree structures comprises accessing at least one of

the trees via a network medium; wherein the accessing of the first and the one or more

second hierarchical tree structures comprises accessing at least one of the trees via the

Internet.

However, Papierniak teaches business context, wireless/mobile and Internet

(abstract, col. 1, lines 10-40, col. 3, lines 56-67, col. 4, lines 1-67, col. 10, lines 8-67 and

col. 11, lines 32-61).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teachings of Draper in view of Gupta

with the teachings of Papierniak by incorporating the use of a system having multiple

hierarchical tree structures for storing data. The motivation being to improve the

searching and retrieving a tree structure and optimization for search on a plurality of

search values without the need to generate and store search table for each search

value values and reduce the amount of required storage area in the searching in the

hierarchical tree structures environment.

With respect to claims 50-53, Draper in view of Gupta teaches a system as

discussed in claim 48.

Draper and Gupta disclose substantially the invention as claimed.

Draper and Gupta do not teach wherein the computing device automatically

determines its location context; wherein the computing device is a handheld computing

device; wherein the computing device is a mobile computing device; wherein the

computing device is a desktop device; and wherein the computing device is a handheld computing device that automatically determines its location context.

However, Papierniak teaches business context, wireless/mobile and Internet (abstract, col. 1, lines 10-40, col. 3, lines 56-67, col. 4, lines 1-67, col. 10, lines 8-67 and col. 11, lines 32-61).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Draper in view of Gupta with the teachings of Papierniak by incorporating the use of a system having multiple hierarchical tree structures for storing data. The motivation being to improve the searching and retrieving a tree structure and optimization for search on a plurality of search values without the need to generate and store search table for each search value values and reduce the amount of required storage area in the searching in the hierarchical tree structures environment.

Contact Information

10.   Any inquiry concerning this communication should be directed to Anh Ly whose

telephone number is (703) 306-4527 or via E-Mail: **ANH.LY@USPTO.GOV**. The

examiner can be reached on Monday - Friday from 8:00 AM to 4:00 PM.

If attempts to reach the examiner are unsuccessful, see the examiner's

supervisor, John Breene, can be reached on (703) 305-9790.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: Central Fax Center Office (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Fourth Floor (receptionist).

Inquiries of a general nature or relating to the status of this application should be

directed to the Group receptionist whose telephone number is (703) 305-3900.

ANH LY
SEP 15th, 2004

JEAN M. CORRIELUS
PRIMARY EXAMINER